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## CCNLP LAB 5

Problem Statement :- Sentiment Analysis using NLTK,  
Watson - Tone analyzer.

Objectives :-

1. To study and explore IBM Watson Tone Analyzer API
2. To learn concepts of sentiment analysis using NLTK.

Theory :-

Explain following concept.

- IBM Watson Tone Analyzer, API - Explain methods used in tone analysis.

IBM Watson Tone Analyzer Service uses linguistic analysis to detect emotional and language tones in written text. The service can analyze tone at both the doc and sentence level. Different methods used in Tone Analysis are :-

## 1) Analyze general tone (GET)

Use the general purpose endpoint to analyze the tone of your input content. The Service analyzes the content for emotional and language tones. The method always analyzes the tone of the full document: by default it also analyzes the tone of each individual sentence of the content.

- Use this **GET** method to analyze smaller quantities of plain text contents
- Use the Analyze general tone **POST** method to analyze larger amounts of contents in any of the available formats.

## 2) Analyze Customer - engagement tone :-

Use the customer - engagement endpoint to analyze the tone of customer service and customer support conversation. For each utterance of a conversation, the method reports the most prevalent subset of the following seven tones: Sad, frustrated, satisfied, excited, polite, impolite, Sympathetic.



## 2) Features of Sentiment Analysis.

1. Fine-grained Sentiment Analysis
2. Emotion Detection
3. Aspect based
4. Multilingual.

### \* Algorithm / Implementation.

- i) Record voice statement
- ii) Convert voice statement to text
- iii) Feed text to tone-analyzer () function.
- iv) Parse json and output relevant result

\* Platform :- 64-bit Open source Linux, IBM Watson cloud, json

\* Input :- Text documents, news article, tweets, customer reviews.

\* Output :- Analysis of input text to various sentiments / tones.

\* Conclusion :- Hence, learned the concept of sentiment analysis using IBM Watson Tone analyzer API and NLTK.

FAQs:

1) List the various sentiments / tones analyzed by IBM Watson Tone analyzer API?

Ans:- 1. Emotions  
2. Social Tendencies  
3. Language style.

Emotion identified includes things like anger, fear, joy, sadness and disgust, identified social tendencies includes things from the Big five personality traits which includes conscientiousness, extroversion, agreeableness and emotional range.

2) List different NLTK modules used in sentiment analysis.

Ans:- NLTK.corpus  
NLTK.tokenize.